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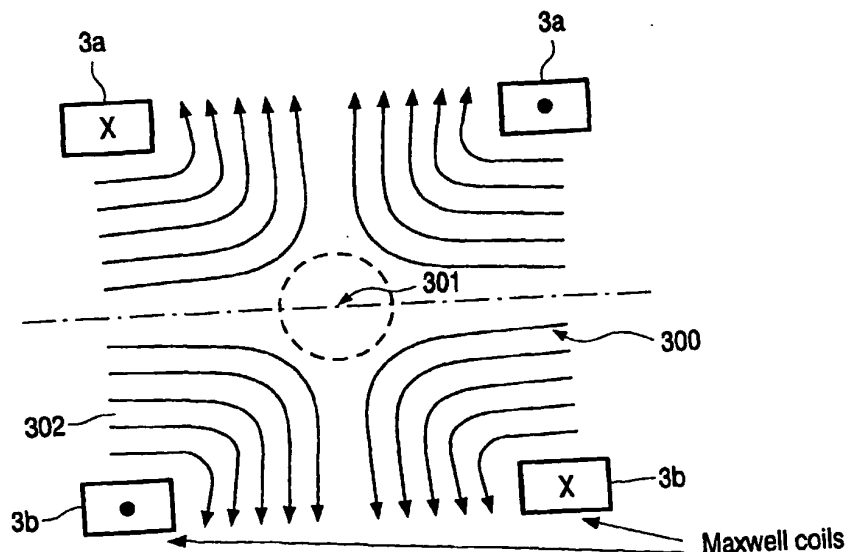
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(10) International Publication Number
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- (51) International Patent Classification⁷: **A61N 1/40**
- (21) International Application Number: **PCT/IB2003/003716**
- (22) International Filing Date: **15 August 2003 (15.08.2003)**
- (25) Filing Language: **English**
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- (30) Priority Data: **102 38 853.9** **24 August 2002 (24.08.2002)** **DE**
- (71) Applicant (for DE only): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE];** Stein-damm 94, 20099 Hamburg (DE).
- (71) Applicant (for all designated States except DE, US): **KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL];** Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
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- (74) Agent: **MEYER, Michael;** Philips Intellectual Property & Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).
- (81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**
- (84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,**

[Continued on next page]

(54) Title: **METHOD FOR LOCAL HEATING BY MEANS OF MAGNETIC PARTICLES**



(57) Abstract: The invention relates to a method as well as to a system for the local heating of a target region of an object by varying the magnetization of magnetic or magnetizable substances. A magnetic field is then generated whose magnetic field strength varies in space in such a manner that a first sub-region (301) of low magnetic field strength and a second sub-region (302) which encloses the first sub-region and has a higher magnetic field strength are formed in the target region. Subsequently, the position in space of the two sub-regions in the target region is varied with a given frequency for so long that the particles are heated to a desired temperature due to frequent variation of the magnetization.

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SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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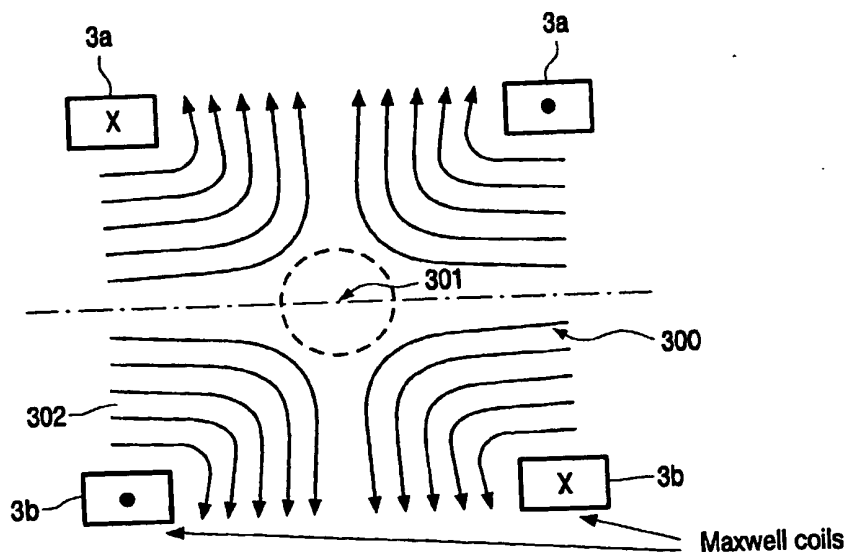
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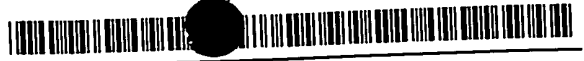
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INTERNATIONAL SEARCH REPORT

International application No
PCT 03/03716

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61N1/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 199 37 492 A (MFH HYPERTHERMIESYSTEME GMBH) 10 May 2001 (2001-05-10) cited in the application column 3, line 53 -column 7, line 45; figures	1,9
A	WO 01 18168 A (FREDRIKSSON SARAH ;GENOVIS AB (SE); KRIZ DARIO (SE)) 15 March 2001 (2001-03-15) page 4, line 34 -page 8, line 9; figures	1,9
A	US 4 690 130 A (MIRELL STUART G) 1 September 1987 (1987-09-01) column 3, line 42 -column 4, line 68; figures	1,9

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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- *P* document published prior to the international filing date but later than the priority date claimed

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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *g* document member of the same patent family

Date of the actual completion of the international search

17 November 2003

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25/11/2003

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

Internatio Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 913 167 A (PARAGON MEDICAL LIMITED) 6 May 1999 (1999-05-06) page 3, line 19 -page 6, line 30; figures -----	1,9
A	EP 0 400 940 A (LEVEEN HARRY H) 5 December 1990 (1990-12-05) page 9, column 15, line 4 -page 10, column 18, line 4; figures -----	1,9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 03/03716

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-8 : partially searched.
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 1-8 have been searched, excluding the aspect relating to a Method for treatment of the human or animal body by therapy- Rule 39.1(iv) PCT.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

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